2009 PAVEMENT MANAGEMENT REPORT

An Update on Asphalt Pavement Conditions and Programs
(2008 Rating & Inventory Data)

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EXECUTIVE SUMMARY

The annual Pavement Management Report is produced to provide updated information and data regarding the City of Eugene's street transportation system. This report provides surface descriptions and associated mileage, current treatment programs and costs, and projects future treatment needs based on several funding scenarios.

The street transportation system is conservatively estimated to represent a $500 million public asset. This asset is typically described in both lane miles and centerline miles. Currently, Public Works manages Eugene's 1328 lane miles, representing 534 centerline miles, within the city limits. A breakdown of the street transportation system is provided in terms of pavement type, level of improvement, and functional classification. Comparative statistical data includes both lane and centerline miles.

Street data is collected manually by trained staff through detailed inspections. Condition inspections are performed annually on arterials and collectors, and on a three-year rotating schedule for residential streets. An Overall Condition Index (OCI) score generated through the inspections provides the data utilized in analysis. CenterLine, a computerized pavement management system (PMS) is the analysis tool utilized by the Public Works Department. Analysis helps in establishing efficient treatment needs and identifies financial implication of various response strategies. Additional benefits of the PMS include a street inventory and condition trends, which are possible due to the compilation of 21 years of street condition information.

For some time, funding levels have not kept pace with rehabilitation needs, as evidenced by a growing backlog. To help address this trend, the City established a local gas tax in 2003 for a Pavement Preservation Program (PPP). The five cent local gas tax program has supported the rehabilitation of approximately 153 lane miles of streets. In November 2008, voters approved a 35.9 million dollar bond for repairs of 32 street projects. Our current backlog at the end 2008 is $171 million and by 2018 a backlog of $276 million is projected. A portion of the backlog increase is due to unprecedented rising costs in the petroleum industry. Current analysis in the Pavement Management Report includes updated costs prepared by Engineering in 2006 utilizing cost data from prior PPP projects and the Oregon Department of Transportation. A 2% inflation factor is added to the modified 2006 costs.

The local gas tax has supported implementation of the preservation program, but as shown by analysis, is insufficient for stabilizing the backlog. The bond measure reduces the growing backlog by approximately $61 million by 2018 and tends to appear as a stopgap measure instead of an enduring mechanism for stabilizing or eliminating our backlog. Optimizing funding options over a ten-year cycle for stabilizing or reducing the current backlog will require financial investments of $18 million annually. With this investment, projections show that by 2025, the reconstruct backlog will be eliminated. Addressing the rehabilitation needs and reconstruction backlog within the same 10-year period requires an annual funding commitment of approximately $27 million.

SCOPE

Eugene's street system is an extensive network of various types of traveling surfaces under the City's jurisdiction. In the following report, definitions of pavement types, improvement status and functional classifications are provided and categorized in terms of both centerline mileage and 12-foot wide lane miles.

A brief history and description of the Pavement Management System (PMS) used by the City will be discussed. Components of PMS, such as pavement inspection frequency, pavement conditions that are described by the Overall Condition Index (OCI), and reports produced by PMS are addressed.

The pavement preservation program, which began in 2003, is highlighted in the report. Outlined are the typical types of preservation treatments, the current lane mile unit cost for each treatment, what condition or OCI a project is recommended for preservation, and a current treatment needs cost analysis is given. A table is provided detailing the current funding sources for PPP.

For an effective preservation program, a coordinated effort is required by the Maintenance and Engineering Divisions, therefore both roles are discussed later in the report. Preservation project selection, interim maintenance prioritization, and ultimately project construction or deferral for future reconstruction is discussed in additional detail. This report lists and maps a one-year proposed project list in addition to projects completed to date.

Three funding scenarios are explored through the analysis program in PMS. We look at the current funding, an $18 million funding, and a scenario where all reconstruct projects are rehabilitated. It is important to note the analysis routines are set up for a ten-year projection, and at this time they are formatted for improved asphalt streets only. These analyses provide necessary information regarding condition trends and rehabilitation needs. Utilizing current funding the analysis gives an idea if our street system remains in the present level of serviceability or is declining. Also, what funding level will create an improvement in our street system and reduce the $171 million backlog.

EUGENE'S STREET INVENTORY

The City of Eugene has jurisdictional responsibility for many different types and classifications of roads within the transportation system. Many factors such as age, development type, traffic loads, use, and future transportation needs affect the maintenance and rehabilitation planning for the system. The segment inventory component of the PMS system allows a reporting of both centerline miles (intersection to intersection) and lane miles of each segment of the system. While commonly used in reporting distance, centerline miles do not relate equally across streets of different widths or different number of lanes. For this report, comparisons typically are shown both in centerline and 12-foot wide lane miles unless otherwise noted.

Improvement Status

For purposes of establishing budget allocations and rehabilitation priorities, and performing maintenance activities based on established maintenance policies, Eugene divides the street inventory into two distinct categories:

Improved streets are those which have been fully designed for structural adequacy, have storm drainage facilities provided which include curbs and gutters, and have either an asphalt concrete (AC) or a Portland cement concrete (PCC) surface. Typically, these streets were either fully improved when the area was developed and paid for by the developer, or were improved through a local improvement district (LID) and paid for in part, by the abutting property owners. In some cases a street may have been fully improved while under State or County jurisdiction and then surrendered to the City. Improved streets receive the highest level of ongoing maintenance and are eligible for rehabilitation funding through Eugene's Capital Improvement Program (CIP) and Pavement Preservation Program (PPP).

Unimproved streets are those with soil, gravel, or asphalt mat surfaces which have typically evolved to their existing state, have not been structurally designed, have few drainage facilities and no curbs and gutters. Unimproved streets receive a low level of ongoing maintenance limited primarily to emergency pothole patching and minimal roadside ditch maintenance. Unimproved Streets are not considered eligible for funding in Eugene's Capital Improvement Program or the Pavement Preservation Program. Typically, an unimproved street must be fully improved through a local improvement district, funded in part by the abutting property owners before a higher level of service will be provided (see "City of Eugene Street Maintenance Policy and Procedure Manual" for levels of maintenance service).

The following tables categorize Eugene's Improved and Unimproved Street System in Centerline Miles and 12-foot Lane Miles by Pavement Type and by Functional Class.

IMPROVED SYSTEM	Asphalt (ACP)		Asphalt over Concrete (APC)		Concrete (PCC)						Total	
	Miles	12' Lane Miles	Miles	12' Lane Miles	Miles	12' Lane Miles					Miles	12' Lane Miles
Major Arterial	13.40	60.68	0.03	0.16	1.38	2.84					14.81	63.67
Minor Arterial	60.30	202.62	2.43	7.97	3.69	11.44					66.42	222.02
Major Collector	29.83	91.39	0.87	2.39	2.59	7.19					33.29	100.96
Neighborhood Collector	22.68	59.60	0.40	1.08	1.96	5.26					25.04	65.95
Residential	302.42	704.11	2.16	5.84	21.56	54.74					326.14	764.69
Total	428.63	1118.38	5.90	17.44	31.18	81.47					465.71	1217.30

UNIMPROVED SYSTEM	Asphalt (ACP)		Bituminous Surface (BST)		Concrete (PCC)		Gravel		Undeveloped		Total	
	Miles	12' Lane Miles	Miles	12' Lane Miles	Miles	12' Lane Miles	Miles	12' Lane Miles	Miles	12' Lane Miles	Miles	12' Lane Miles
Major Arterial	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Minor Arterial	1.17	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.17	2.28
Major Collector	2.70	6.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.70	6.19
Neighborhood Collector	5.41	10.51	0.23	0.35	0.00	0.00	0.00	0.00	0.00	0.00	5.64	10.86
Residential	34.10	57.76	9.57	14.78	0.03	0.03	9.74	14.30	4.20	4.20	57.63	91.07
Total	43.38	76.73	9.80	15.13	0.03	0.03	9.74	14.30	4.20	4.20	67.15	110.40

Functional Classifications

The quantity and associated vehicle weight of traffic using streets is a critical factor affecting the rate at which pavement and roadbeds deteriorate. Eugene divides streets into five categories called functional classifications (FC), each representing a different volume and type of vehicular usage.

MAJOR ARTERIAL (FC-1) -Major Arterials are usually four or more lanes and generally connect various parts of the region with one another within the city and with the "outside world." They serve as major access routes to regional destinations such as downtowns, universities, airports, and similar major focal points within the urban area. Major Arterials typically carry an average of more than 20,000 vehicles per day. Major Arterials receive high priority maintenance.

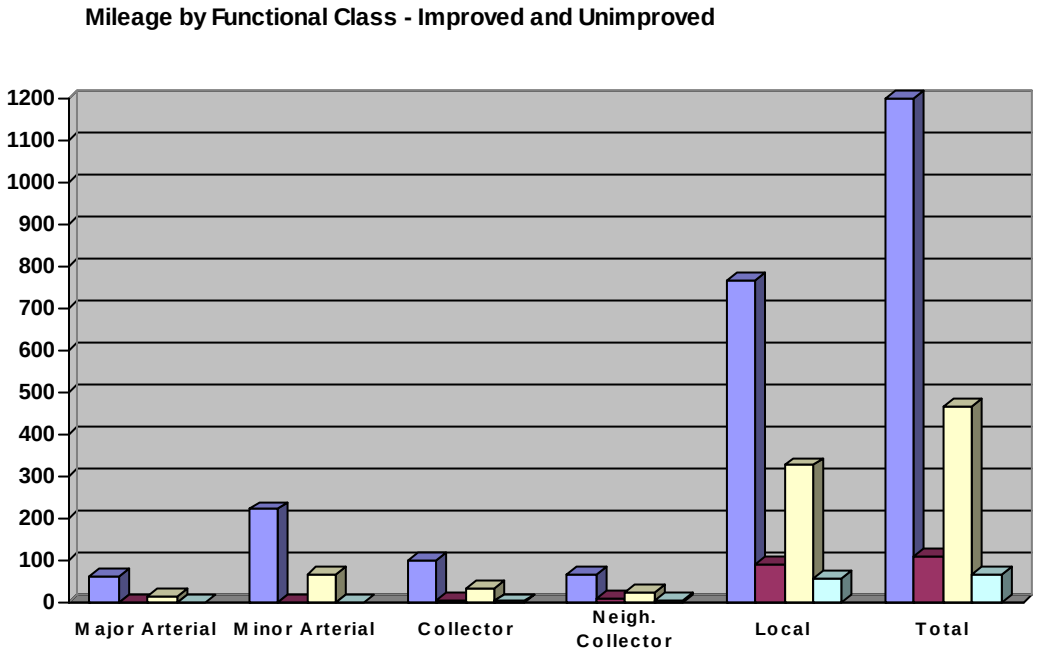
MINOR ARTERIAL (FC 2) -Minor Arterials are typically two or three lanes. These streets provide the next level of urban connectivity below major arterials. In most cases their main role tends to be serving intra-city mobility. Minor Arterials carry between 7,500 and 20,000 vehicles per day. Minor Arterials receive priority maintenance.

MAJOR COLLECTOR (FC-3) -Major Collectors can be found in residential, commercial, and industrial areas. They typically carry between 2,500 and 7,500 vehicles per day. Major Collectors have a higher priority for maintenance than local streets.

NEIGHBORHOOD COLLECTOR (FC-4) -Neighborhood Collectors are found only in residential neighborhoods and provide a high degree of access to individual properties in a neighborhood. They typically carry between 1,500 and 2,500 vehicles per day. Prior to the adoption of the Eugene Arterial & Collector Street Plan in November 1999, this functional classification designation did not exist; therefore, these streets were generally designated as collectors.

LOCAL (FC-5) -Local streets provide access to individual properties along the roadway. They are narrow, slow-speed, and low-volume service facilities. They typically carry fewer than 1,500 vehicles per day, and receive low priority maintenance.

The following graph illustrates both centerline and lane miles by improvement type and functional classes.



	Major Arterial	Minor Arterial	Collector	Neigh. Collector	Local	Total
Improved 12' lane miles	64	222	101	66	765	1217
Unimproved 12'lane miles	0	2	6	11	91	110
Improved centerline miles	15	66	33	25	326	466
Unimproved centerline miles	0	1	3	6	58	67

PAVEMENT MANAGEMENT SYSTEM

Effective evaluation of planning and funding priorities necessitate that local jurisdictions manage their transportation infrastructure with some form of pavement management system. Generally, the PMS provides guidance in the decision making process and is designed to prevent pavement failures through judicious maintenance. The Pavement Management System performs analysis and reports on the current and projected condition of the pavement surface. The system is dependent on the annual condition inspections/surveys that are conducted.

The PMS used by the City of Eugene since 1987 was developed by Washington's League of Cities and Washington County Roads Administration Board (CRAB) in conjunction with the Washington Department of Transportation (WDOT). The PMS combines visual field inspection ratings, compiled under strict criteria, with an automated computer tracking and condition analysis program, called CenterLine. Together these components of PMS document current pavement condition and serviceability, and provide a basis for modeling project financial/condition trends. Eugene's PMS contains 21 years of historical data and has the ability to estimate financial needs and road conditions twenty years into the future.

Pavement Inspection Frequency

Two predominant work efforts required to maintain the PMS are updating the street inventory and performing the annual inspection of surface conditions. City streets are divided into segments based on their Functional Classification (FC), pavement type, and geometric design. Segments are the basic unit for evaluating streets and surface conditions. A segment is defined as a portion of a street with a beginning and ending description. Changes in geometric features are used as a guide for determining segments. Examples of geometric differences are surface type, segment widths, surface age, and extent of past rehabilitations.

Annual field inspections are performed on all the City's arterials and collector streets. Since the rate of deterioration of a local street is typically less than that seen on higher classification streets, field inspections are performed on one third of the local streets each year which places all local streets on a three-year inspection cycle. Field inspection is conducted by pairs of pavement raters who walk each individual street segment evaluating the pavement for signs of distress. Discrepancies between the ratings of the two pavement raters, or from the previous years' ratings are reason for the segment to be rated a second time to ensure a correct evaluation.

Overall Condition Index (OCI), Deduct Values, and Distresses

Pavement raters walk streets evaluating the pavements for signs of distress. Distresses occurring in streets are dependent on pavement type and are rated by extent and severity. These values are logged on standard forms designed for the field surveys. Distresses occur in many phases of deterioration; therefore, the predominate extent and severity is rated. The data is then entered into CenterLine. Numerical values (deduct values) are assigned to each distress' extent and severity, all deduct values are summed and then subtracted from the base value of 100 internally. The final value, designated as the overall condition index (OCI), indicates the surface condition of a street segment. A street with an OCI of 100 represents a new or recently rehabilitated street. As the condition of a street surface begins to deteriorate the OCI decrease reflects surface deterioration. This OCI value is the basis used to analyze the surface treatment needs of the individual segments.

Asphalt distresses typically observed are alligatoring, longitudinal and transverse cracks, rutting, raveling, and some maintenance procedures such as crack sealing and patching. Concrete distresses observed are cracks per panel, raveling, joint spalling, faulting, and crack sealing.

How PMS Information is Used

The primary purpose of maintaining a PMS is to collect and analyze information relating to street system condition and trends providing Public Works Managers with vital information which helps to ensure that the most cost effective maintenance or rehabilitation strategies are identified and performed at the optimum time.

Each year the PMS is used to generate several reports requested by other agencies as well as statistical data requested within our own agency. The following is a sample of reports produced with PMS data:

- Three Year Pavement Preservation Project List
- Crack Seal Program
- Five-Year Surface List – five-year moratorium for street cutting
- ODOT Oregon Mileage Report
- City of Eugene Public Infrastructure Table
- Annual Insurance Marketing Report
- Transportation Service Profile
- ICMA Survey

PAVEMENT PRESERVATION PROGRAM

Street preservation, capital improvements, and maintenance efforts make up the complete Pavement Preservation Program (PPP). In this section, current cost analyses are shown and the roles of Public Works Engineering and Maintenance Divisions are discussed. Proposed projects for PPP are shown for 2009.

Treatment Types and Costs

Unit Costs were reviewed and updated in 2000 by Pavement Services, INC. In 2006 the Engineering Division updated unit costs as a result of various industry sources reporting substantial increases in construction costs. One reason for the increase was the cost of oil-based products. Staff reviewed cost trends provided by ODOT and noted that costs for liquid asphalt has risen over 77%, from $207/ton to $368/ton, in a nine month period. Public Works Engineering Division compared cost trend data with the current projects completed under the PPP program and recalculated unit costs to reflect recent price increases. After discussion with Pavement Services, INC., the 2% inflation factor appeared to be appropriate to continue to use once the unit costs were updated. 2008 unit costs used in the analysis are the updated costs with the 2% inflation factor. As of the date of this report, the costs for petroleum based products continue to climb steadily.

Based on historic and current construction costs as tracked by the Engineering Division, each functional class has an estimated unit cost for overlay and reconstruction treatments. For Local streets (FC-5) an additional treatment option was considered, slurry seals. The slurry seal option allows for a cost-effective treatment for local street segments, which do not carry high traffic loads.

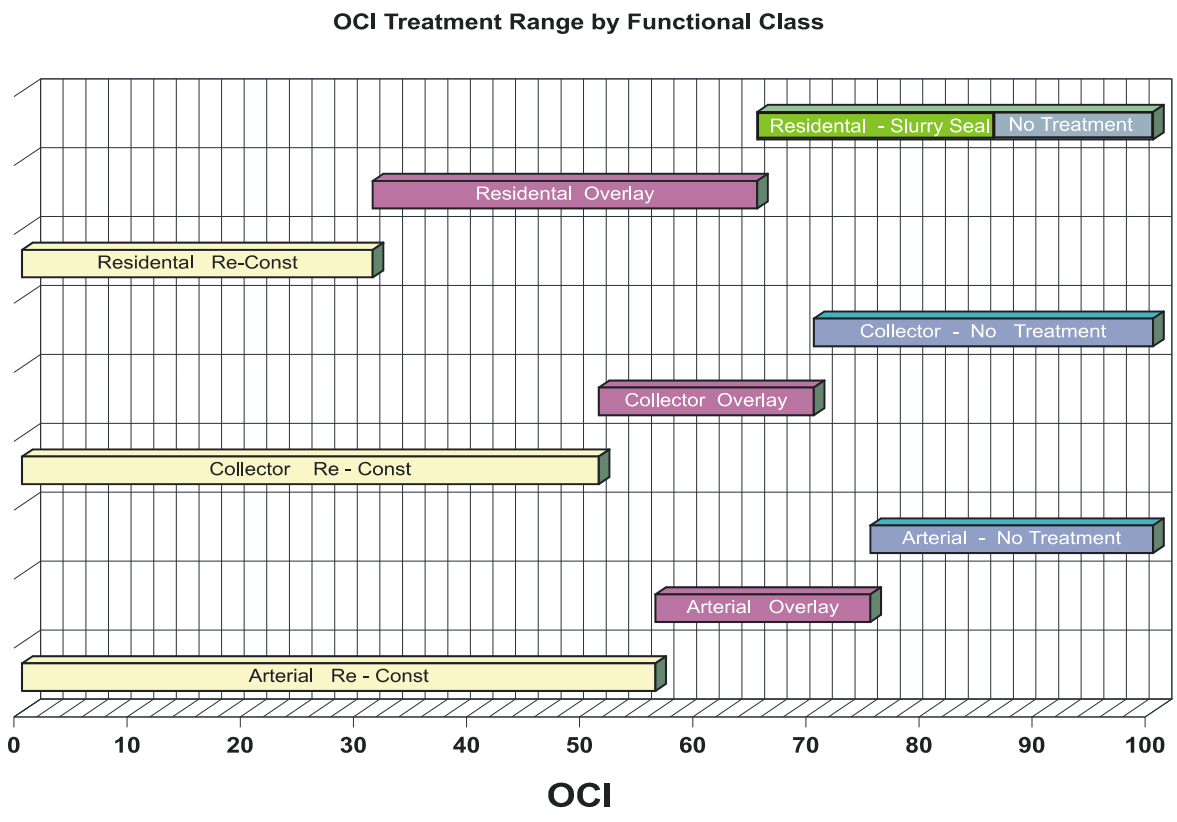
Unit costs for overlay treatments are derived using historic weighted average project costs and projected costs for rehabilitation of streets in each specific functional classification. Typical overlay rehabilitation includes milling of existing pavement to a moderate depth to remove existing cracking and increase strength of the structural section. Isolated areas of severely distressed pavement is removed and replaced including a new aggregate base. Associated costs include replacement of striping and pavement markings, adjustment of manholes, and other work needed to return the street to normal operation.

Unit costs for reconstruction treatments are derived using historic weighted average project costs and projected costs for reconstruction of streets in each specific functional classification. Typical street reconstruction includes removal of the existing pavement and base structural section and replacement with a new structural section which will meet a 20-year design life. Isolated areas of curb and gutter are replaced where they would not be suitable to contain new paving or have severe drainage problems. Associated costs include replacement of striping and pavement markings, adjustment of manholes, and other work needed to return the street to normal operation.

Unit costs for slurry seal treatments are derived using historic weighted average project costs and projected costs for slurry seal of local streets. Typical slurry seal treatment includes street cleaning, removal of vegetation, sealing of cracks, and application of an emulsified asphalt aggregate mixture to the entire paved surface. Associated costs include replacement of striping and pavement markings, and other work needed to return the street to normal operation.

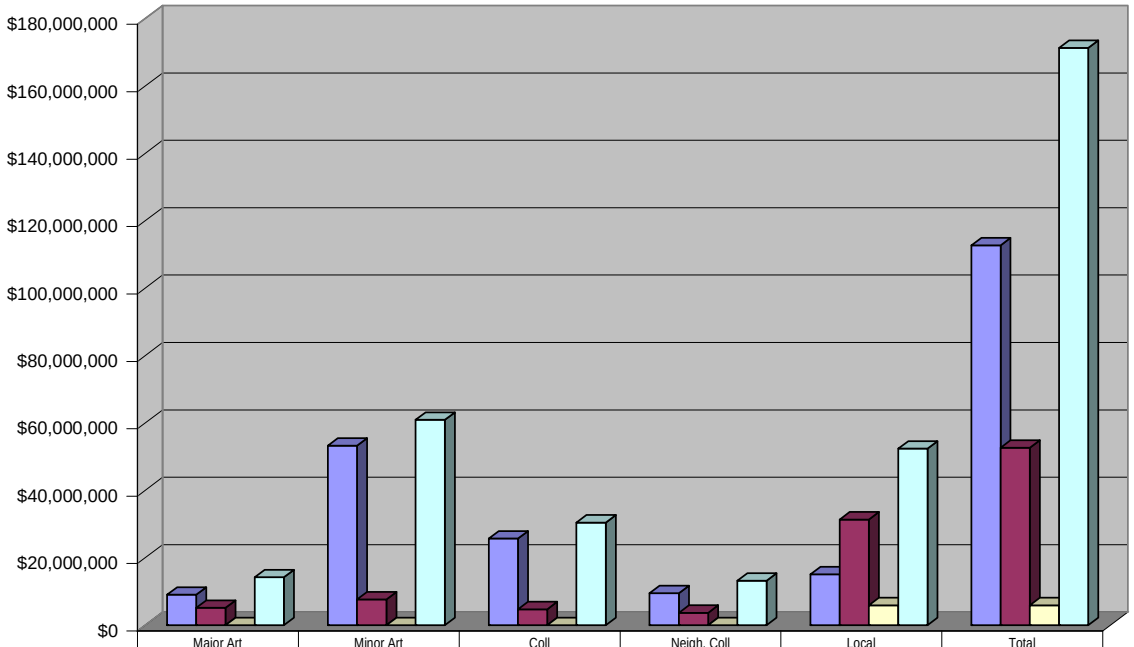
Treatment – Functional Class	12' Lane Mile Cost 2005 cost	Updated Eng. 2006 cost	2008 cost
Overlay - FC 1 & 2	$122,000	$215,000	$224,000
Overlay - FC 3 & 4	$156,000	$184,000	$192,000
Overlay - FC 5	$73,000	$169,000	$177,000
Re-Const - FC 1 & 2	$545,000	$765,000	$796,000
Re-Const - FC 3 & 4	$365,000	$677,000	$705,000
Re-Const - FC 5	$230,000	$505,000	$526,000
Slurry Seal - FC 5	$11,000	$19,000	$20,000

The following graph identifies the trigger points for each treatment based on Functional Class.



This chart provides detail of the Current Cost for Treatment of the entire improved system excluding concrete streets at the end of the 2008 rating season.

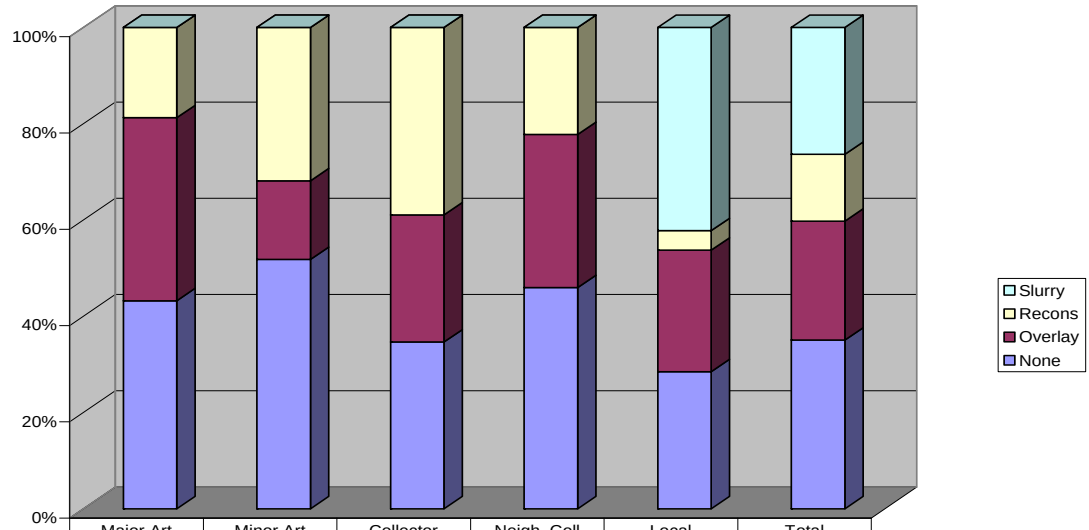
Treatment Costs 2008 Year End



	Major Art	Minor Art	Coll	Neigh. Coll	Local	Total
Recons	$9,068,100	$53,300,800	$25,726,800	$9,515,600	$15,138,900	$112,750,200
Overlay	$5,170,300	$7,675,300	$4,752,100	$3,701,700	$31,379,500	$52,678,900
Slurry	$0	$0	$0	$0	$5,903,800	$5,903,800
Total	$14,238,400	$60,976,100	$30,478,900	$13,217,300	$52,422,200	$171,332,900

The following Graph provides detail of the Treatment needs for the Improved System by percentage excluding concrete streets.

Percentage Current Needs By Functional Class Year End 2008



	Major Art	Minor Art	Collector	Neigh. Coll	Local	Total
Slurry	0.0%	0.0%	0.0%	0.0%	26.35%	26.4%
Recons	1.01%	5.92%	3.22%	1.19%	2.54%	13.9%
Overlay	2.04%	3.03%	2.19%	1.70%	15.74%	24.7%
None	2.32%	9.61%	2.87%	2.46%	17.79%	35.1%

Projected Funding for Pavement Preservation Program FY08 through FY14

From the inception of the Pavement Preservation Program (PPP) in 2002, the city has been faced with the challenge of securing adequate, sustainable funding for this program. Currently there are several sources which contribute funding for pavement rehabilitation and reconstruction projects. The primary source is the city's local motor vehicle fuel tax ("gas tax"), which is currently levied at five-cents per gallon. The reimbursement component of Transportation System Development Charges (SDCs) have historically generated close to $800,000 per year for PPP projects, but in the current dampened economic environment, building permit activity is down sharply, along with the level of this funding stream. Under an intergovernmental agreement, Lane County made a one-time transfer in FY09 of $4.5 million in County Road Fund monies to Eugene, which the City Council has earmarked for pavement preservation projects. However, it is not anticipated that this agreement will be extended or expanded. The cumulative effect of these factors are such that PPP annual revenues, which were once projected at $4.2 million per year, are now projected to steadily decline over the next three fiscal years and then to level out at about $2.3 million in funding per year—a 45% decrease in total funding from FY08 levels.

November 4, 2008, voters approved a $35.9 million dollar bond measure dedicated for 32 preservation projects. The $35.9 million five-year plan is funded by general obligation bonds and is estimated to cost a typical homeowner an average of $102 a year for five years. The bond proceeds will fix approximately 70 lane miles of streets and 3 miles of off-street bike and pedestrian paths. The measure will generate approximately $6.5 million annually plus inflation for five years. Of that, $350,000 would be used annually to fix off-street bicycle and pedestrian paths; remainder would be used to fix streets, as well as pay bond issuance costs. No bond money could be used to expand capacity of street system.

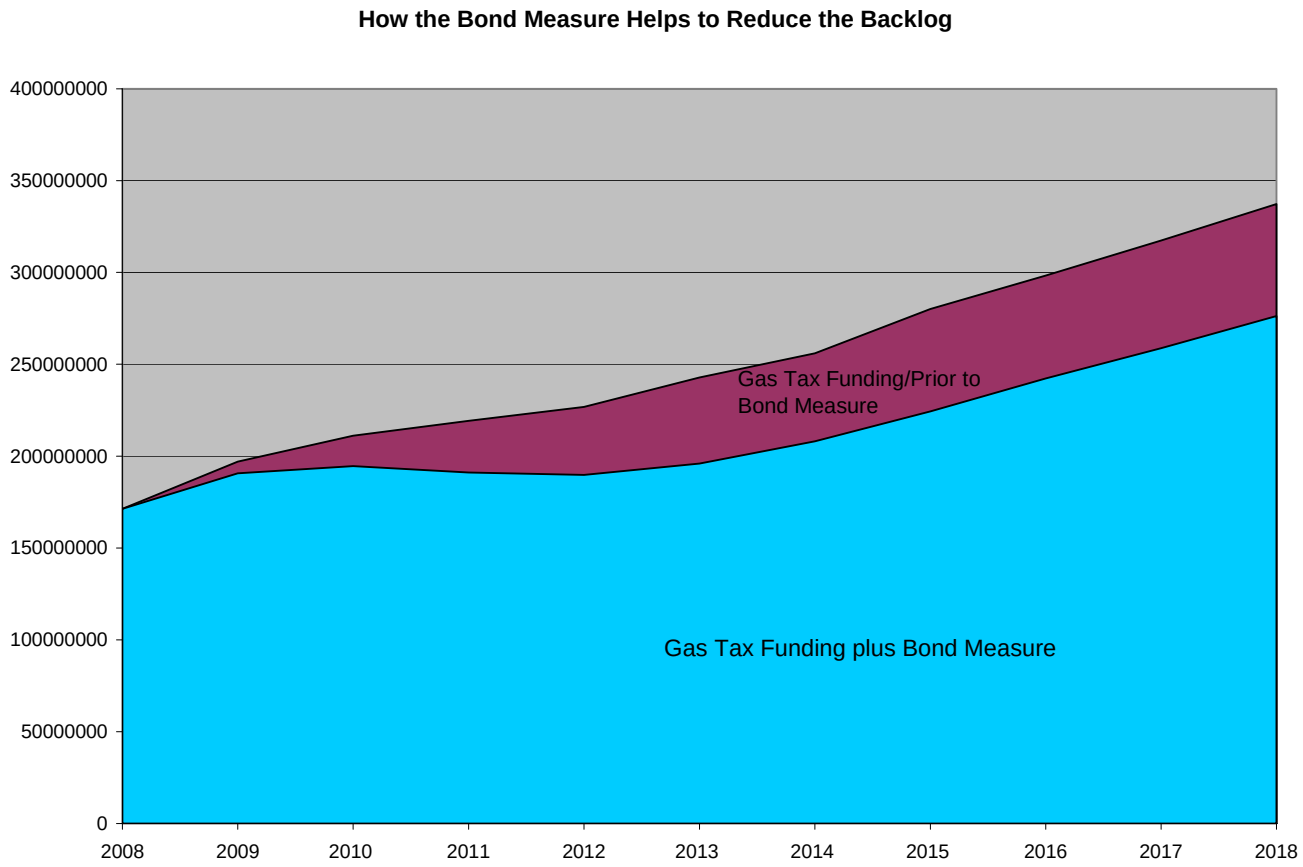
Fiscal Year	Local Gas Tax (Note 1)	SDCs (Note 2)	Other (Note 3)	Total Funding	Total Bond Funding
FY08 (actuals)	$3,083,605	$ 754,369	$309,650	$4,147,624	$0
FY09 (est.)	$3,180,000	$ 673,000	$1,279,000	$5,132,000	$2,653,800
FY10 (est.)	$2,820,000	$ 411,000	$146,000	$3,377,000	$7,160,400
FY11 (est.)	$2,444,000	$ 411,000	$153,000	$3,008,000	$7,576,700
FY12 (est.)	$1,692,000	$ 412,000	$160,000	$2,264,000	$7,427,800
FY13 (est.)	$1,692,000	$ 412,000	$ 168,000	$2,272,000	$7,745,600
FY14 (est.)	$1,692,000	$ 413,000	$ 176,000	$2,281,000	$0

Notes:

1) Local Motor Vehicle Fuel Tax (gas tax) revenues are assumed at the 5-cent level throughout the forecast period. Gas tax revenue projections are based on ODOT forecast assumptions and are expected to decline over time.

2) SDC reimbursement revenue is projected to decline significantly in FY10, due to reduced building activity.

3) "Other" revenue generally includes investment interest, permit fees and other misc. resources. In FY09, however, $4.5 million of Lane County road funds were received under an intergovernmental agreement and earmarked by Council for pavement preservation projects.



Project Prioritization

Selecting streets or street segments is done through a process involving analysis, tests, and staff experience. Eugene has a street inventory of approximately 1328 lane miles. Using information collected by pavement raters, a computer model forecasts pavement life and trends. Combining this information with estimated revenues allows staff to estimate backlogs and group potential street segments for Pavement Preservation Program (PPP) projects. To verify street segment ratings, the Maintenance Division forwards potential project segments to the Engineering Division who coordinates field testing.

Streets are not prioritized on a "worst first" basis. One of the main reasons for this is the limited funds available to address Eugene's street repair backlog. Public Works' main objective is to keep street segments from slipping into the reconstruction category, which typically costs four to five times more per lane mile than rehabilitation. By rehabilitating (overlaying) a street before it significantly deteriorates, 15 to 20 years of useful life can be added to a street at a substantial cost savings over reconstruction. By the same token, once a street has deteriorated to the point that it must be reconstructed, the opportunity for preventive street maintenance (overlay) is lost. For these reasons, streets that are categorized as overlay projects receive the highest priority for corrective treatment. If at some point in the future there are additional funds available, or if the majority of overlay projects have been addressed, reconstruction projects will be scheduled.

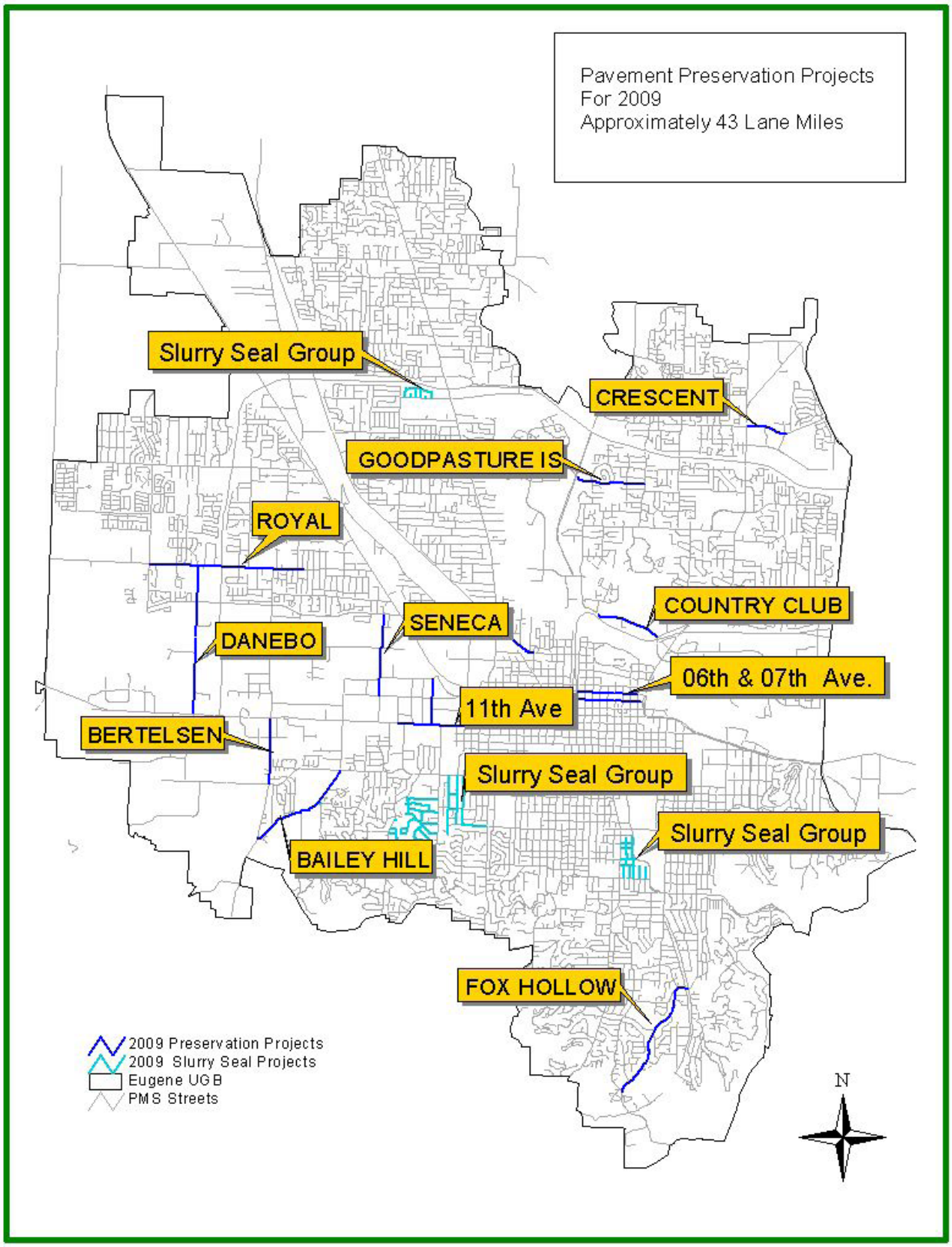
The following is a list of scheduled projects for 2009.

2009 Pavement Preservation Projects			
Name	From Limit	To Limit	Lane Miles
ROYAL	WS WAITE	ES N TERRY	4.63
CRESCENT	50' E OF SHADOWVIEW	ES COBURG RD.	1.39
COUNTRY CLUB	WS CC/WILLAGILLESPIE	NS SOUTHWOOD LN.	2.03
FOX HOLLOW	WS E AMAZON	SS DONALD	2.57
06TH/7TH	ES HIGH ST	ES WASHINGTON	4.71
		Total	15.33
2009 Bond Projects			
Name	From Limit	To Limit	Lane Miles
BAILEY HILL RD	SS WARREN	ES BERTELSEN	2.15
BAILEY HILL RD	SS 18TH AVE	SS WARREN	1.55
GOODPASTURE IS RD	WS NORKENZIE RD	WS RIDGEWAY DR (W)	1.27
RAILROAD BLVD	WS VAN BUREN	ES CHAMBERS	2.18
		Total	7.15
2009 Slurry Seal Projects			
Name	From Limit	To Limit	Lane Miles
25TH AVE	WS HIGH ST	ES OAK ST	0.15
25TH AVE	WS OAK	ES WILLAMETTE	0.15
26TH AVE	WS HIGH	ES OAK	0.14
26TH AVE	WS OAK	ES WILLAMETTE	0.15
27TH AVE	WS OAK	ES WILLAMETTE	0.22
27TH AVE	WS HIGH	ES OAK	0.22
28TH AVE	ES HIGH	ES WILLAMETTE	0.31
FERRY ST	NS 2810	NS E 29TH	0.34
HIGH ST	SS E 24TH	NS E 27TH	0.50
HIGH ST	SS E 27TH	NS E 28TH	0.15
HIGH ST	SS E 28TH	NS E 29TH	0.26
MILL ST	NS DRWY 2805	NS E 29TH	0.34
OAK ST	SS26TH	NS 27TH	0.59

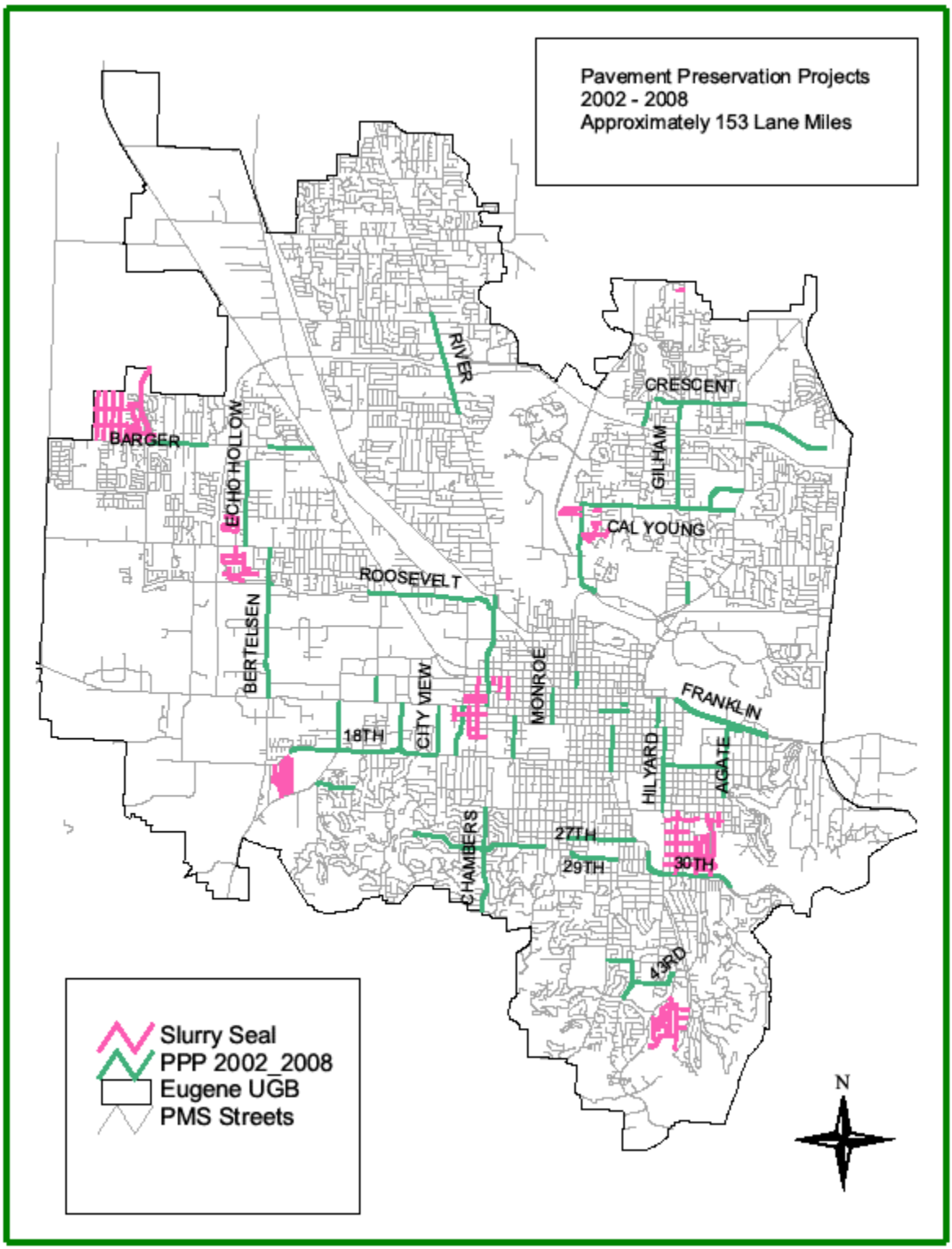
OAK ST	SS 27TH	NS 28TH	0.15
Name	From Limit	To Limit	Lane Miles
OAK ST	SS 28TH	NS 29TH	0.34
PEARL ST	SS 28TH	NS 29TH	0.35
20TH AVE	ES CLEVELAND ST	WS ARTHUR ST	0.16
21ST AVE	WS CITY VIEW	ES 2511	0.55
21ST AVE	ES 2511	ES TRILLIUM	0.28
22ND AVE	NS 23RD AVE	WS 2485	0.32
22ND AVE	WS 2485	ES TRILLIUM	0.38
22ND AVE	WS TRILLIUM	WS 2620	0.12
22ND Ave	ES CLEVELAND ST	WS ARTHUR ST	0.22
23RD AVE	WS CITY VIEW	ES TRILLIUM	0.82
24TH AVE	WS CHAMBERS	WS 1810	0.47
24TH AVE	ES CLEVELAND ST	WS GARFIELD ST	0.22
27TH AVE	WS CITY VIEW	W 242 CITY VIEW	0.10
27TH AVE	W 242 CITY VIEW	NS 28TH AVE	0.32
28TH AVE	WS CITY VIEW	WS 2571	0.13
28TH AVE	WS 2571	2584 28TH AV	0.19
ARTHUR ST	SS W 18TH	NS W 24TH	1.34
BOWMONT DR	SS HIGHLAND OAKS	NS DRWY 2742	0.56
BOWMONT DR	NS DRWY 2742	WS BOWMONT	0.27
CLEVELAND ST	SS W 18TH	NS W 22ND AVE	0.93
CLEVELAND ST	NS W 22ND AVE	SS W 23RD AVE	0.24
CLEVELAND ST	SS W 23RD AVE	SS DRWY 2511	0.45
GARFIELD ST	SS W 18TH	NS W 22ND	0.67
GARFIELD ST	SS W 22ND AVE	NS W 24TH AVE	0.33
GLENN MAR AVE	WS PARK FOREST	ES HAWKINS	0.23
HAWKINS LN CDS N	2405	2415	0.06
HAWKINS LN CDS S	2525	2595	0.07
HIGHLAND OAKS	WS WILSON	WS DRWY 2615	0.48
PANORAMA DR	W CITY VIEW	115' W OF CITY VIEW	0.05
PANORAMA DR	115' W OF CITY VIEW	ES TERRACE VIEW	0.41
PARK FOREST DR cds	2523	2595	0.04

PARK FOREST DR	ES HAWKINS LN (N)	SS DRWY 2511	0.26
Name	From Limit	To Limit	Lane Miles
PARK FOREST DR	SS DRWY 2511	ES HAWKINS (S)	0.31
TERRACE VIEW DR	NS CITY VIEW	NS 2699	0.06
TERRACE VIEW DR	NS 2699	SS WILSON	1.40
TERRACE VIEW DR	NS WILSON	WS CITY VIEW	0.44
TERRACE VIEW DR CDS S	2612	2652	0.12
TERRACE VIEW DR CDS N	2350	2380	0.06
TRILLIUM ST	SS HAWKINS LN	NS HIGHLAND OAKS DR	0.49
WILSON DR	WS CITY VIEW	WS TERRACE VIEW	0.40
WILSON DR	WS TERRACE VIEW DR	SS 23RD AVE	0.29
DALTON DR	SS STERLING	NS SILVER LN	0.19
ESCALANTE ST	SS STERLING	NS SILVER LN	0.19
SILVER LEA CT	DRWY 2150	NS SILVER LN	0.10
SILVER LN CDS	NORTH END (215-281)	NS SILVER LN	0.05
STERLING DR	NS SILVER LN (W)	NS SILVER LN (E)	0.83
STERLING DR CDS	(525-625)	NS STERLING LN	0.09
		Total	20.04

The following map illustrates the Pavement Preservation Projects scheduled for 2009.



The following map illustrates Pavement Preservation Projects since inception of the program.



O & M – Overview of Maintenance Roles

Maintenance Division staff from both the surface technical and operations teams are involved in a variety of roles associated with the Pavement Preservation Program (PPP). Pavement rating, budget and street life analysis, grouping projects, and preventative maintenance are all components of a pavement management system that take place in the Maintenance Division.

Surface technical staff performs annual pavement rating of the City's transportation system in order to track current pavement conditions. Streets are placed on the PPP list when the Overall Condition Index (OCI) indicates an overlay treatment is needed. With this information, detailed analysis is performed to help identify current treatment needs and forecast anticipated needs. Based on available funding, projects from the PPP list are grouped for efficiency. Once approved by the Maintenance Director, this list is sent to the Engineering Division for field testing to verify condition findings.

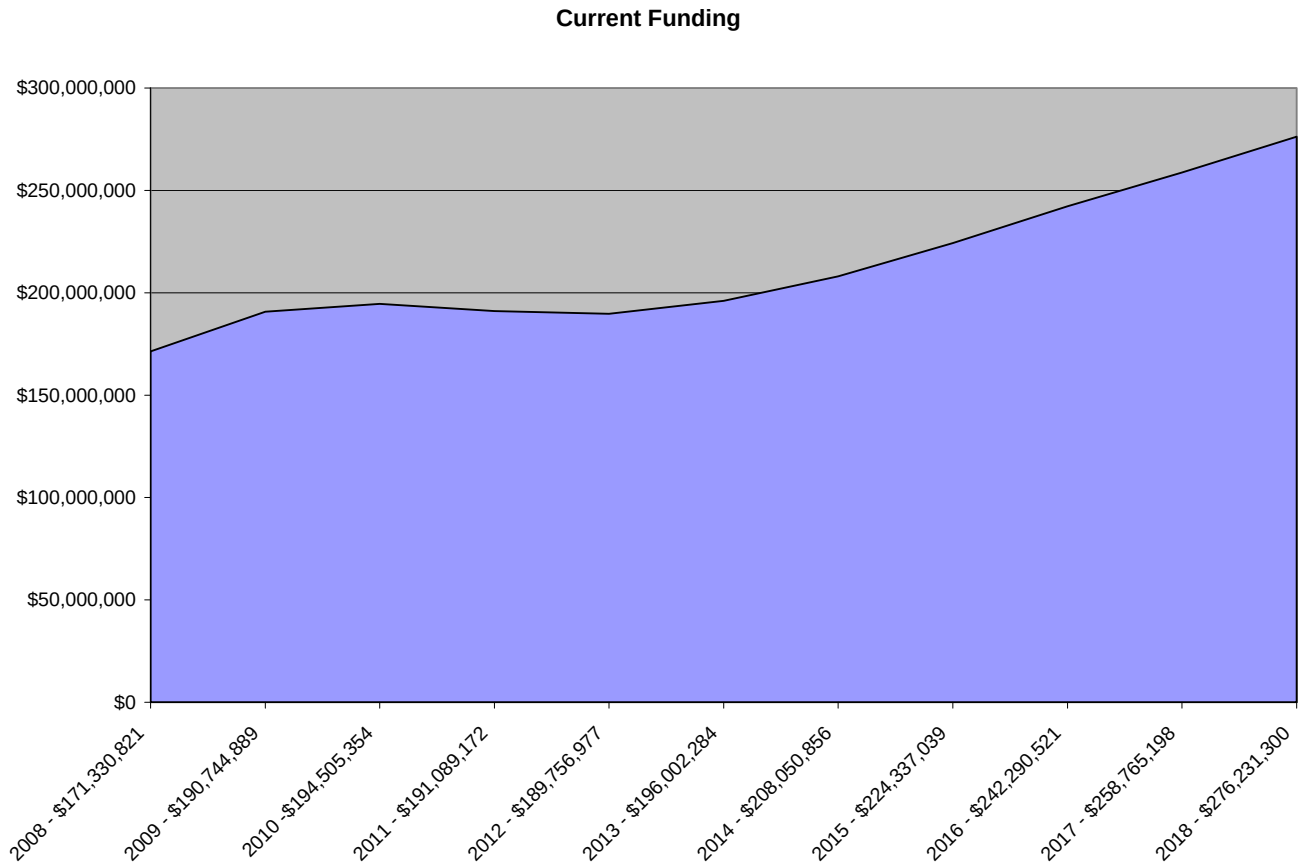
Surface operations staff maintain more than 1328 lane miles of city streets this includes concrete streets which are not included in the Pavement Preservation Program. Fully improved asphalt streets receive the highest level of maintenance. Preventative maintenance designed to extend the life of the transportation asset is of highest priority. Street maintenance for streets identified on the PPP list will be similar to those streets with higher OCI ratings. These streets will be swept on a regular schedule, receive skin patching when necessary, have alligatored areas dug out and replaced, receive scheduled crack sealing, and have base failures repaired. These maintenance activities are performed to mitigate hazardous conditions and to extend the useful life of the street. The goal of preventative maintenance is to prevent a street's OCI from slipping into a reconstruction category in which corrective treatments can run four to five times the cost of overlay projects.

PPP – Overview of Engineering's Role

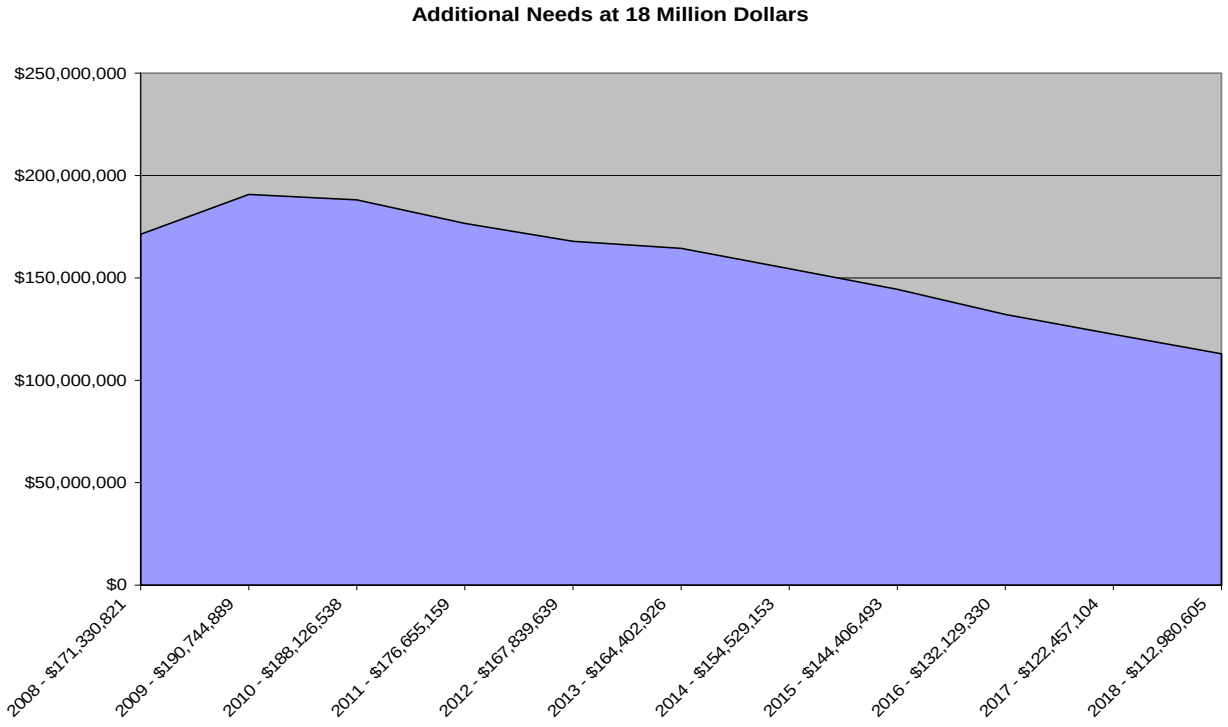
Engineering Division receives the grouped projects for preservation three years out. Construction design and historical data are collected and reviewed, and field inspections are performed. Final determination of needed treatment results from core tests and recommendations by pavement consultants. Once a street is determined to be a true reconstruct it is deferred until funding is identified and available. Reasons for reconstruct treatment include base failure, design standards which did not anticipate current capacity, and poor initial design standards.

FUNDING COMPARISON WITH CURRENT GAS TAX

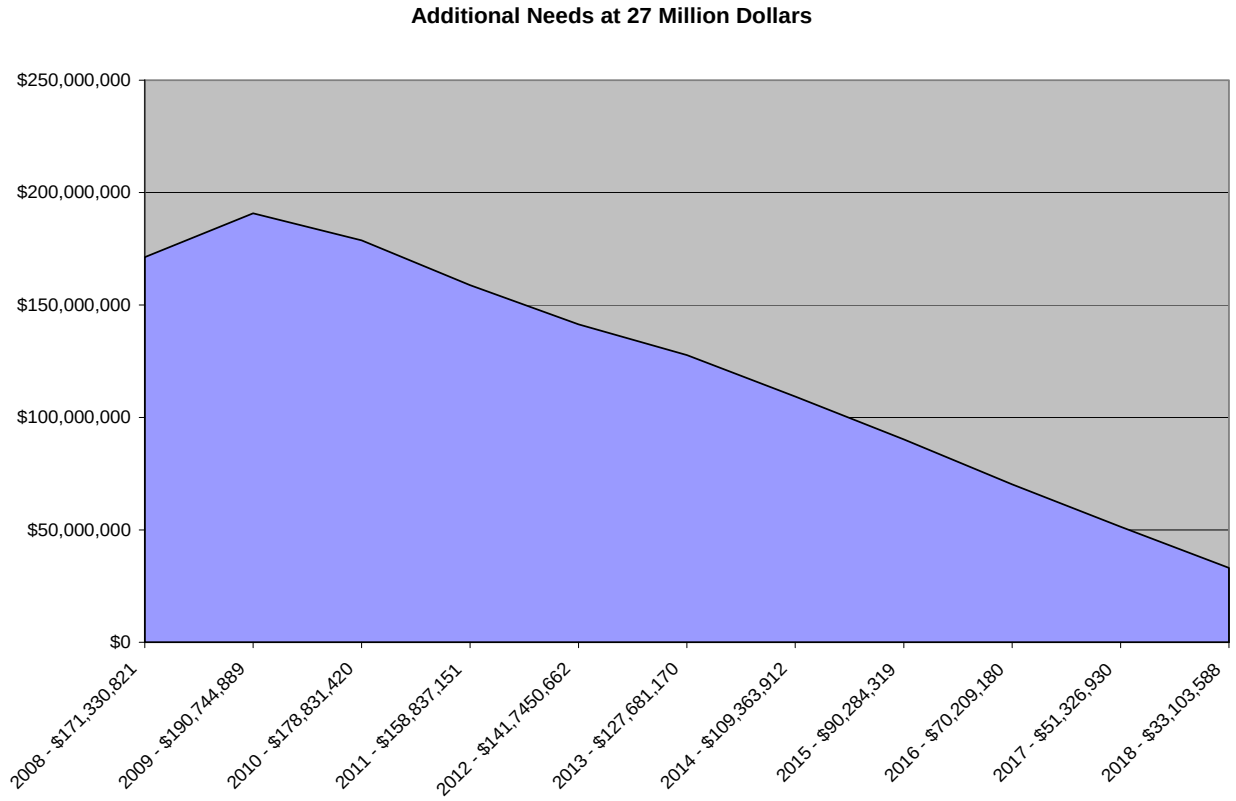
Utilizing the PMS software, an analysis for a ten year period beginning at the end of 2008 has been completed based on the current funding. The PMS software evaluates the deterioration of each segment based on the historic individual OCI ratings. The software then projects when to apply the necessary treatment at the proper time. When possible, the system applies a less expensive treatment earlier in the degradation curve. The established annual funding level is applied to the treatment needs, and then the annual distribution of treatment types is developed. If the established budget does not allow for all of the treatment needs to be met, a remainder value (in dollars) is reported. This value is commonly called the "additional needs" budget. A graph of the "additional needs" for the current funding level has been provided as well as an optimum funding scenario at $18 million. Additionally, a graph identifying a funding level necessary to prevent projects falling into reconstruct and rehabilitating all projects currently in a reconstruct condition is included. This scenario requires approximately $27 million. An inflation factor of 2% annually has been applied to these forecasts. The 2% value is based on historic cost values as tracked by a published market study (ENR).



Current analysis utilizing updated unit costs identifies that $18 million annually in road rehabilitation is needed. This funding level preserves all streets in the low end range of the overlay condition and prevents them falling into a reconstruct condition. With this funding we are also able to address approximately $57 million of arterials and $30 million of collectors already in a reconstruct condition over a ten year period.



To fully address all streets needing reconstruction and preventing streets falling into a reconstruct condition an average of $27 million annually in rehabilitation funding would be needed over a ten year period.



SUMMARY

In last five years the Pavement Management System program has met goals and objectives which have increased the City's ability to maintain and improve the pavement condition of our public road infrastructure system.

Implementation and collection of a five cent local gas tax was approved as a source for revenue for the Pavement Preservation Program (PPP). This additional funding source allowed for approximately 153 lane miles of streets to be rehabilitated through the Pavement Preservation Program (PPP) administered by Public Works Engineering Division.

The current cost estimates for treatment of the improved system based on 2008 inspection ratings and the local gas tax revenue indicate approximately a $171 million backlog at the end of 2008. Ten years later in 2018, our backlog is $276 million. Our current revenue for preservation is not adequate to reduce the backlog.

A funding level of $18 million will begin to reduce the backlog. With this funding level, streets that need reconstruction will begin to be targeted and residential streets (the largest portion of Eugene's street network) will receive treatment. A funding level of $27 million is needed to eliminate the backlog of reconstruction needs over a ten year period.